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ABSTRACT

Influenza messaging and interoperability: the PHLIP assistance team approach

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Objective
This paper describes the Public Health Laboratory Interoperability Project (PHLIP) assistance team (PAT) approach and the collaborative efforts between the Association of Public Health Laboratories (APHL) and the Centers for Disease Control and Prevention (CDC) to achieve electronic laboratory surveillance messaging (ELSM) for Influenza. The knowledge transfer and experience gained by state public health laboratories (PHLs) participating in PHLIP could serve as an interoperability model for other data messaging and surveillance initiatives.

Introduction
An essential theme of the US Federal Health Information Technology Strategic Plan is interoperability and the ability to effectively exchange information using specific data and technical standards.[1] In 2005, in an effort to accelerate the development of a national laboratory standards-based electronic data-sharing network, APHL and CDC collaborated to launch PHLIP.[2] The goals of PHLIP include, but are not limited to, improving the quality of data exchanged, piloting sustainable architecture for laboratory data exchange, sending and receiving HL7 test results from states to CDC programs (v2.3.1), increasing the use of Route-not-Read hubs for regional data exchange, and expanding these efforts beyond National Notifiable Diseases (NNDs). In an effort to achieve these goals, APHL solicited input directly from the PHL community to understand what assistance was necessary to achieve success with ELSM; in this case, Influenza as a prototype. After receiving feedback from PHLs responsible for reporting NNDs, the concept of technical assistance teams was formulated. In early 2010, APHL initiated an effort to send out the PATs to implement the ELSM message for Influenza in as many PHLs as possible by December 2010.

Methods
A detailed retrospective review of the experiences of the PATs experience will be presented. PHLs signed up for PAT support and were prioritized according to input from the CDC's Influenza Division, as well as their own timeline for assistance. Deployed in spring 2010, two technical assistance teams were tasked with visiting PHLs to provide 'hands-on' assistance in areas including technical architecture, vocabulary, and project management expertise. States that were not available to host an onsite PAT visit were given the option of receiving 'virtual' support. Over the last 6 months, the process from initial state engagement until going 'live' with the PHLIP ELSM has evolved and best practices for achieving interoperable electronic data exchange have been captured.

Results
Presently, over 30 PHLs are working in some capacity on PHLIP, and 11 PHLs have been visited by PATs. Since March 2010, approximately 10 PHLs receiving either an onsite visit or virtual support by the PAT are now sending automated Influenza messages to CDC. Next states to be visited before December 2010 include NH, KY, NY, and WA, as well as others. (Table 1).

Conclusions
Over the last 6 months, PHLs have increased their interoperability functionality as well as enhanced their surge capacity for Influenza. These improvements are because of the PAT approach and the foresight of the collaborating organizations; APHL and CDC. Given the changing climate of infectious disease transmission, it is important to heed the lessons learned for effective laboratory information management processes, while keeping an eye toward interoperability in the public health domain.

Table 1 Process steps from initial PHL engagement until electronic message validation by state model type

Model	*Time to validation step*
Original, non-PAT states	6–12 Months
States with PAT support	Under a month

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